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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,959	10/07/2003	Susan Jane Knox	STAN-274	6076

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EXAMINER

KOSSON, ROSANNE

ART UNIT PAPER NUMBER

1653

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action  
Before the Filing of an Appeal Brief**

Application No.

10/680,959

Applicant(s)

KNOX ET AL.

Examiner

Rosanne Kosson

Art Unit

1653

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED on July 6, 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☐ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
- Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2. ☒ The Notice of Appeal was filed on 06 July 2005. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
- (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ They raise the issue of new matter (see NOTE below);
- (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
- The status of the claim(s) is (or will be) as follows:
- Claim(s) allowed: \_\_\_\_\_.
- Claim(s) objected to: \_\_\_\_\_.
- Claim(s) rejected: 1,2 and 5-8.
- Claim(s) withdrawn from consideration: \_\_\_\_\_.

**AFFIDAVIT OR OTHER EVIDENCE**

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: \_\_\_\_\_.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). \_\_\_\_\_
13. ☐ Other: \_\_\_\_\_.

Applicants' amendments have been noted and considered. All of Applicants' arguments have been considered, but they are not persuasive of error.

Firstly, Applicants assert that the claimed invention differs from the disclosure of Fox et al. in that, in the reference, UV radiation is used, while in Applicants' invention, ionizing radiation is used. Claims 1, 2, 7 and 8 recite ionizing radiation. Only claims 5 and 6 recite a type of ionizing radiation. An Internet bulletin from the EPA, "Understanding radiation- ionizing and non-ionizing radiation," [http://www.epa.gov/radiation/understand/ionize\\_nonionize.htm](http://www.epa.gov/radiation/understand/ionize_nonionize.htm), printed on July 15, 2005 (see enclosed), discloses that ionizing radiation includes UV, x-ray and gamma radiation. The forms of ionizing radiation are the high-energy forms of electromagnetic radiation. Because ionizing radiation includes UV radiation, the invention as claimed is not distinguished from the teachings of Fox et al.

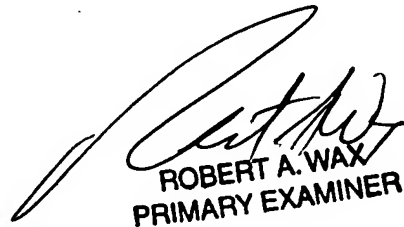
Secondly, Applicants assert that their invention differs from the teachings of Gilbert et al. because one of ordinary skill in the art would not have predicted that normal cells and transformed-cell-line cells would have the same degree of protection from radiation damage when treated with a Na<sup>+</sup>/K<sup>+</sup>-ATPase channel-opening agent. In reply, the degree or amount of protection from radiation is not a limitation recited in the claims. The claims recite simply a method of protecting normal, non-transformed cells from ionizing radiation damage. Gilbert et al. use gamma radiation. Applicants note that tumor cells that overexpress Bcl-2 can have altered baseline activity of the Na<sup>+</sup>/K<sup>+</sup>-ATPase channel pump. But, as previously discussed, Gilbert et al. teach that when these channels are opened, the membrane is hyperpolarized, and this hyperpolarization protects the cells from radiation damage. The channels may be opened by treating the cells with valinomycin, as do Applicants, or by transforming them with a vector containing the Bcl-2 gene so that they overexpress Bcl-2 protein. Cells not transformed with this vector but treated with valinomycin also show improved resistance to radiation killing (see p. 118, Table 1 and Figure 2). There is no indication that the properties of the Na<sup>+</sup>/K<sup>+</sup>-ATPase channel or pump differ between normal cells and those of the HL60 and PW cell lines. Thus, one of ordinary skill in the art would expect the same behavior among all these cell types, i.e., that they all have functional channels and pumps and that treating any one of these cell types with valinomycin would cause the Na<sup>+</sup>/K<sup>+</sup>-ATPase channel to open, thereby hyperpolarizing the membrane and providing radiation protection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosanne Kosson whose telephone number is 571-272-2923. The examiner can normally be reached on Monday-Friday, 8:30-6:00, with alternate Mondays off. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon Weber, can be reached on 571-272-0925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rosanne Kosson  
Examiner  
Art Unit 1653

rk/2005-07-21



ROBERT A. WAX  
PRIMARY EXAMINER